

CLAIMS

1. A molding device for blow-molding or stretch-blow-molding containers from heated thermoplastic preforms, said device comprising at least one mold (1) comprising at least two half-molds (1a, 1b) that can be moved with respect to each other between an open position in which they are parted from one another and a closed position in which they are firmly pressed against one another via collaborating respective bearing faces (2a, 2b) defining a parting line (3), locking means (14) being provided to lock the two half-molds (1a, 1b) in the closed position, which locking means (14) comprising on at least one side of the mold, a first lock element (15) in the form of a hook secured fixedly to the first half-mold (1a) along the edge of the bearing face (2a) thereof, a second lock element (16) in the form of a hook inverted with respect to the previous one and mounted such that it can pivot, on a rotation surface, on the second half-mold (1b), and actuating means functionally associated with said second lock element in such a way as to move the latter transversely between a locked position in which it is engaged with the first lock element to lock the two half-molds in the closed position and an unlocked position in which it is disengaged from the first lock element to release the two half-molds that can then be parted from one another,
- characterized in that, in addition:
- the first and second hook-shaped lock elements (15, 16) extend respectively over the entire height of the first and second half-molds (1a, 1b),
 - the second half-mold (1b) has, along the edge of its bearing face (2b) and over at least most of its height, a radially projecting flange (17) shaped, on its face facing away from the bearing face (2b), as an arc of a circle and able to constitute a rotation surface (18), and

- said second lock element (16) belongs to one end of a moving part (19) provided with a transverse projecting flange (20) defining a bearing surface (21) in the shape of an arc of a circle facing toward the second hook-shaped lock element (16) and able to bear continuously over the entire height of said rotation surface (18) of the second lock element (1b),

whereby, when the mold is closed and locked and subjected to the blowing pressure, the force to which the second half-mold is subjected is reacted, by said moving part, substantially continuously over most of its height via said rotation surface.

2. The molding device as claimed in claim 1, in which the mold (1) is of the hinged type with the two half-molds (1a, 1b) articulated to one another in terms of rotation on a shaft (8) substantially parallel to one side of the parting line (3), characterized in that said locking means (14) are provided on the opposite side of the two half-molds to said shaft (8).

3. The molding device as claimed in claim 1 or 2, in which each half-mold (1a, 1b) comprises a shell holder (5a, 5b) to which there is internally fixed a shell (6a, 6b) equipped with a molding half-cavity (4a, 4b) the parting line (6) being defined by the two shells (6a, 6b) pressed together when the mold is in the closed position, characterized in that the locking means (14) are supported by the two shell-holders (5a, 5b).

4. The molding device as claimed in any one of claims 1 to 3, characterized in that said face of the protruding flange (17) of the second half-mold (1b) which faces away from the edge of the bearing face (2b) is hollowed out (22) in the shape of an arc of a circle and houses a rotation spindle (23) the free surface of which

constitutes said rotation surface (18).

5 5. The molding device as claimed in claim 4,
characterized in that the rotation spindle (23) of the
moving part (19) supporting the second lock element (16)
is supported by a small number of hollowed-out clevises
secured to the second half-mold.

10 6. The molding device as claimed in claim 5,
characterized in that the clevises are two in number,
distant from one another and, in particular, situated near
the respective ends of the spindle.

15 7. The molding device as claimed in claim 4,
characterized in that the rotation spindle of the moving
part supporting the second lock element has a height
appreciably greater than that of the second lock element
and in that its two ends are engaged in two respective
20 cups, secured to the second mold, whereby the moving part
supporting the second lock element bears over
substantially the entirety of its height against the
rotation spindle.

25 8. The molding device as claimed in any one of claims 1
to 7, characterized in that the first and second hook-
shaped lock elements (15, 16) extend continuously over
their entire height.

30 9. The molding device as claimed in any one of claims 1
to 7, characterized in that at least the second hook-
shaped lock element (16) extends discontinuously over its
entire height and comprises a multiplicity of hooks (39)
separated from one another (40) and distributed over its
entire height.

35

10. The molding device as claimed in any one of claims 4
to 9, characterized in that the rotation spindle is

arranged in the form of an eccentric spindle and in that pivot control means are associated with it, whereby the spindle is able to occupy two angular positions with respect to the moving part, namely a position at minimum radius for which the moving part bears against the part of the spindle that has a minimum radius and for which the moving part can be made to move toward its locked position or toward its unlocked position and a position at a greater radius for which the moving part bears against a part of the spindle that has a radius greater than the minimum radius and for which the moving part, in the locked position, is immobilized in this position being subjected to traction between the first and second mutually-engaged lock elements and the rotation spindle.

11. The molding device as claimed in any one of claims 1 to 10, this device being of the rotary carousel type, characterized in that the actuating means functionally associated with the second lock element comprise at least one idling cam follower roller supported by part of the moving part situated beyond its bearing surface with respect to the second lock element, said roller being able to collaborate with a fixed guide cam positioned laterally with respect to the rotary carousel.

12. The molding device as claimed in claim 11, characterized in that the actuating means for actuating the second lock element comprise a return spring able to return the moving part to a position for which the second lock element is in the catching position.

13. The molding device as claimed in claim 10, this device being of the rotary carousel type, characterized in that the means for controlling the pivoting of the eccentric spindle comprise an idling cam follower roller supported, via a transmission mechanism, by one end of

said shaft, said roller being able to collaborate with a fixed guide cam positioned laterally with respect to the rotary carousel.

- 5 14. The molding device as claimed in claim 13, characterized in that the means for controlling the pivoting of the eccentric spindle comprise a return spring able to return said spindle to its position of minimum radius.

10

15. The molding device as claimed in any one of claims 1 to 14, characterized in that the first hook-shaped lock element is attached and fixed to the first half-mold.

- 15 16. The molding device as claimed in any one of claims 1 to 14, characterized in that the first hook-shaped lock element is formed as an integral part of the first half-mold.

- 20 17. The molding device as claimed in any one of claims 1 to 16, characterized in that the second hook-shaped lock element is attached and fixed to said moving part.

- 25 18. The molding device as claimed in any one of claims 1 to 16, characterized in that the second hook-shaped lock element is formed as an integral part of said moving part.

- 30 19. The molding device as claimed in any one of claims 1 to 16, characterized in that said pivoting surface in the shape of an arc of a circle for the moving part is supported by a mounting plate attached and fixed to the second half-mold.